

# MARINE REVIEW.

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## Classification of Steel Vessels—Capt. F. D. Herriman.

A good likeness of Capt. F. D. Herriman, who has begun the work of inspecting and classifying steel vessels for the Inland Lloyds, and who will be introduced to all builders and owners of this class of vessels before the opening of another season of navigation, is printed herewith. The underwriters doing business on the lakes evidently propose to revise the Inland Lloyds Register and have a classification of their own, whether vessel owners complete plans to join them in the work or not, as Capt. Herriman is now in Cleveland looking over some of the steel vessels under construction and will visit Buffalo and other places in advance of the meeting of underwriters and vessel owners in Detroit, about the middle of the present month. He is engaged in preparations for formulating rules governing the construction of steel boats, and otherwise establishing a system of inspection and classification for such vessels.

Capt. Herriman is a native of the state of Maine and is one of six brothers who owned and commanded sea-going vessels. He was in command for twenty years before establishing in Liverpool, England, a plant for the construction and repair of ships. While in Liverpool he represented throughout England the Boston Marine Insurance Company, and held other important American connections, as well as close relations with the Bureau Veritas, the French classification society which operates in all parts of the world. A short time ago Capt. Herriman decided to close up his business in Liverpool, which had been conducted with success for nearly twenty years, and return to America, intending to make Chicago his home and to live partly in retirement. Upon hearing of his coming to this country, officers of the Bureau Veritas secured his services, to investigate the steel ship building industry and shipping matters generally on the lakes and to introduce the Veritas here. Although he had not expected to class any vessels here for some time to come, Capt. Herriman has been called upon to give a rating in the Veritas to two whalebacks building at the West Superior yard of the American Steel Barge Company and to the passenger ship being built by the Chicago Ship Building Company for the Lake Michigan & Lake Superior Transportation Company. In taking the position of inspector of steel vessels for the Inland Lloyds, Capt. Herriman does not give up his connection with the Bureau Veritas.

The rules for lake construction on which he is now engaged will probably not be as stringent as those of the Veritas. He will inspect all steel vessels unless he meets with objection from owners, which is not probable in any case.

## Ore Sales Market—Lake Freights.

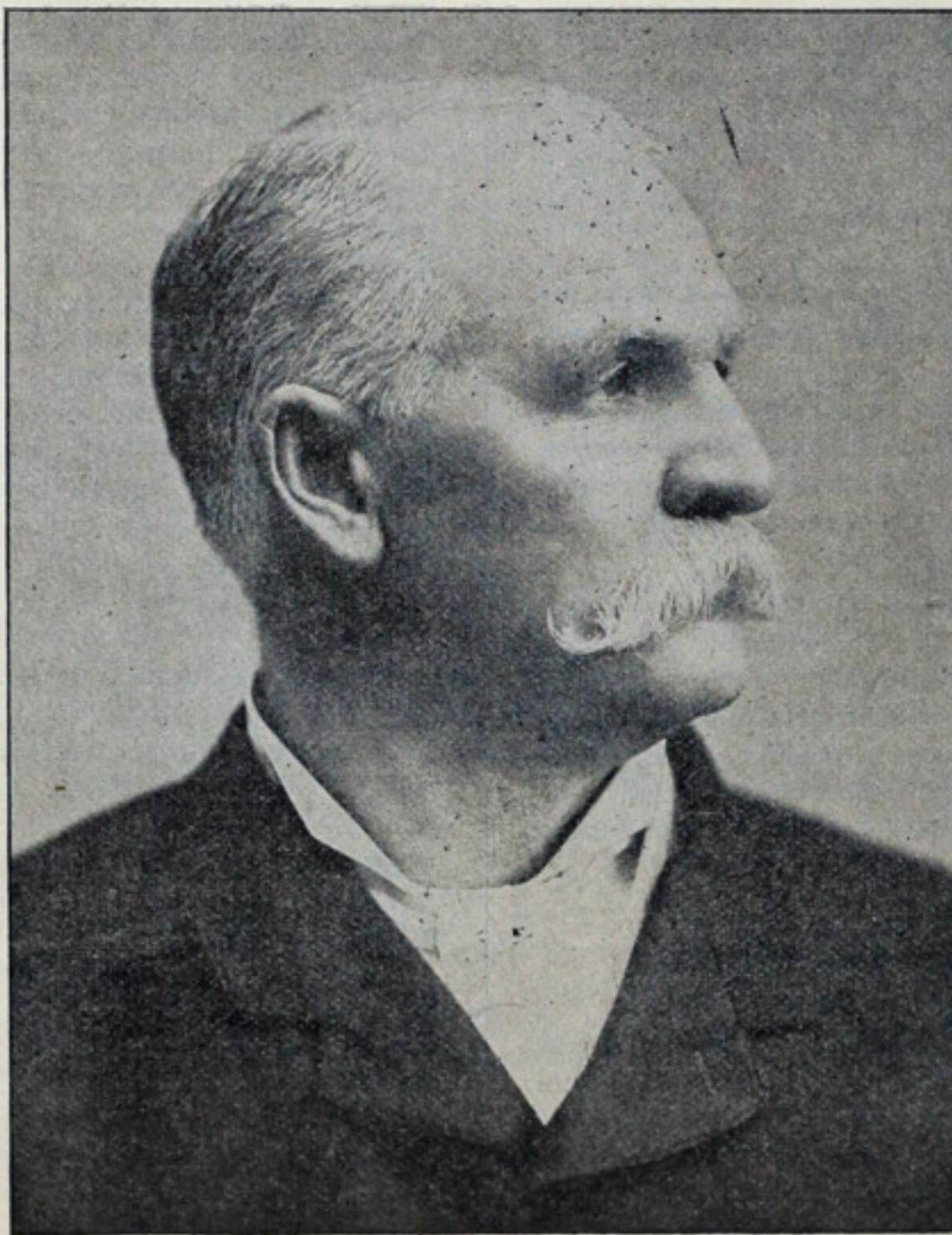
Commission dealers in iron ore have about reached the conclusion that any effort on their part to hurry furnace men in the matter of negotiations for next season's iron ore output would be of no avail, and it is the general opinion that sales will be delayed for some time yet. At this time a year ago the bulk of the Bessemer ore product was sold, although there was then no more reason for expecting high lake freights than at present. Ore shippers now claim that furnace owners do not give sufficient consideration to this question of lake freights, which debars them (the shippers) from considering anything in the way of a material reduction in prices. The sales agents also say it is difficult to overcome the feeling that Mesabi ore will be shipped during the coming summer in sufficient quantities to have a bearing upon the market. They are of the opinion, however, that sales will not be delayed as they were in 1891, when navigation opened without a settlement of prices on ore. Notwithstanding the unsatisfactory condition of the pig iron market, the consumption of ore is such as to warrant the belief that there will be no great surplus on Lake Erie docks when navigation opens, as in 1891, and this will force sales, but whether at about last year's prices or not is, of course, an unsolved question.

Some of the iron trade papers have printed a statement to the effect that the West Duluth Furnace is getting ore from the Standard Ore Company, one of the new Mesabi range corporations, on a contract covering rail delivery through the winter at \$2 a ton at the furnace, when in fact the price as given by representatives of the Standard company is \$2, f. o. b. cars at the mine. This statement is misleading and is injurious to owners of Mesabi range mines as well as ore dealers generally, as it tends to place a low value on the

ore. Add 80 cents rail freight and \$1.25 lake freight to \$2, the price of the ore at the mine, and we have \$4.05 as the price of such ore delivered on Lake Erie docks.

The partnership of Runyon, Mack & Co., Cleveland commission dealers in iron ore, has been dissolved, and Mr. W. E. Mack has formed a partnership with H. B. Nye of Rattle, Nye & Hollis, analytical chemists and mining engineers. Mr. Nye gives up all connections with the firm of analytical chemists. Mr. Runyon will continue in the ore business but has not as yet made any announcement as to whether he will have a partner or not.

Members of the Grand Lodge, Shipmasters' Association, are grouped in a supplement accompanying this issue of the REVIEW. The engraving is from a photograph taken at Port Huron, Mich., during the recent meeting of the Grand Lodge.



CAPT. F. D. HERRIMAN.



## Favorable Reports on Lake Measures in Washington.

Special Correspondence to the MARINE REVIEW.

BUFFALO, N. Y., Feb. 2.—I don't believe that Secretary Keep of the Lake Carriers' Association has ever had better reasons for congratulating himself since he took the position he holds than since his return from Washington. His report to President Wilson will be a very pleasant one. He went down to take part in the fight against the Harter bill of lading, and he found plenty of help on hand. Result more or less direct of his trips: The Harter bill shelved and in its place a substitute giving both shippers and vessel men what they have long demanded; the passage of the raft bill; the acceptance of the Lake Carriers' Association's narrow-channel passage rules by the supervising inspectors; the contract for three new lights in Detroit river and the assurance that they and also the Bar point light will be ready by the opening of navigation, and the adoption of the clause giving \$3,500,000 to the lakes in the sundry civil appropriation bill. This is glory enough for one week.

It is understood that Chairman Blanchard of the river and harbor committee will take \$25,000 from the \$1,000,000 for 20-foot channel work and use it to widen "Collision Bend" in Lake George cut, St. Mary's river.

By the way, Congressman Outhwaite of Ohio very unwittingly clinched the lake appropriations in the sundry civil bill last week very tight. He is chairman of the committee on military affairs, and when he found that Objector Holman had cut out a lot of appropriations relating to that department, "in the interest of economy," of course, he got up and howled furiously. Turning to the sundry civil bill he referred in a very savage way to the economy of giving Galveston, Mobile and a lot of other gulf ports \$1,000,000 apiece for harbor improvements. This brought to their feet the members from those cities and they proceeded to give reasons for wanting that amount that exactly apply to the lake appropriations, and they will be obliged to vote for the whole lot now, even if they are not so very friendly to the lakes.

It turns out that H. M. Loud of Oscoda was the purchaser of the steamer John B. Ketchan last week. The Craigs ran her up till their mortgage was covered and then let her go. The Louds will put her in the Huron Transit Company that they organized two or three years ago, but will probably not use her for towing, as she has not enough power.

Capt. J. J. Rardon came down from Chicago last week to look after the claim of the owners of the Northerner, it is said. So far there has been nothing done about this rather mixed-up matter.

The Union dry dock is still waiting for iron to begin the new Lake Erie liner. The contract was let last fall, but the keel is not laid for her yet. Some iron has arrived, but it happens to be frames or something else that couldn't be used to begin with. The Homestead strike and the moving of the Union shipyard had to do with the delay.

The report of the traffic through the International bridge gives a very satisfactory growth of Niagara river tonnage. The whole number of vessels passing through the bridge in 1892 was 14,044, which is in round numbers an increase of 1,000 vessels a year since 1887. A scrutiny of the proportion of sailing vessels, however, indicates that the increase is mainly steam, which shows that Buffalo excursion boats have had much to do with the growth. But Tonawanda business is satisfactory for all that and there is prospect of putting up grain elevators there next summer.

## Nothing to be Gained by Abuse of Canada.

Special Correspondence to the MARINE REVIEW.

WASHINGTON, D. C., Feb. 2.—Mr. S. A. Thompson of Duluth, who was here recently attending the National Board of Trade convention, said in an interview: "There is no sentiment in trade, and if Canadians will provide a means by which wheat may be transported from the great shipping centers on the lakes to the seaboard for 5 cents less than it can be transported by American vessels, they will control the trade. The question, consequently, of the proposed canal from the lakes through American territory affects the west and the east alike. In three years (\*) the Welland canal will be deepened, and the Sault Ste. Marie canal, connecting Lake Michigan with Lake Superior, completed. This will complete their through connections with the St. Lawrence ports, and Canada will transport not only all the wheat from the territory lying north and northwest of the American boundary line in Manitoba, but from our own west. Now we want to do this enormous amount of transporting ourselves. We want our own canals to the seaboard, and we hope, eventually, to see one of the proposed routes selected by congress, and the canals built."

At a meeting of the house committee on naval affairs a few days ago, Mr. Bushnell spoke in favor of a proposition to make an appropriation for the further test of the Ericsson sub-marine gun and projectile. The ordnance department made tests of this gun during the past year in the Erie Basin and Simpson dry dock, Brooklyn, N. Y. The results of these experiments were such that in the opinion of the board which conducted the tests further trials should be made with projectiles having greater strength in their afterbodies to withstand the shock of explosion. Mr. Bushnell advocated an appropriation for this purpose. The ordnance people are anxious to develop this matter, as they think that as an auxiliary to the ram this system of under-

water discharge when perfected will greatly increase the effective power of that weapon. The committee took the proposal under consideration.

[\* If Mr. Thompson made any such statement as that credited to him regarding the Welland canal he is certainly misinformed. Everybody having an interest in lake commerce understands fully the struggle in which Canada is now engaged in its efforts to provide a waterway 14 feet in depth between Lake Erie and the Atlantic seaboard. There is no intention of enlarging the Welland before the completion of the canals in the St. Lawrence to the proposed depth of 14 feet. Waterways of such dimensions are not of sufficient size to detract largely from United States commerce on the lakes. It is the general opinion that Mr. Thompson and a few other delegates to the recent waterways convention are wasting a great deal of energy and valuable time in talking so much of Canada in this matter. Some very harsh language regarding the Dominion government was also used in the Washington convention, and it was not only uncalled for but was entirely out of place.—ED.]

## Horse Power of a Boiler.

When the horse power of a boiler is referred to, a very vague idea of the real meaning of the term is given. Most people get the impression that when we say a boiler has a certain horse power it means that the engine which it is constructed to supply steam to will exert that power when all the prescribed conditions exist. What the horse power of a boiler really means is a question that is difficult to answer. It is neither logical nor appropriate to express the steam-generating power of a boiler in units of horse power, but it seems to have become a habit which has grown upon mechanics that is hard to break off and discontinue. The unit of horse power for boilers is not, says a contemporary, fixed except by arbitrary agreement among the parties concerned, the basis differing according to the nature of the work done by the steam. Many boilermakers rate the horse power of the boilers by the number of square feet of heating surface contained in the boiler. Although this rule is followed by many, it is no criterion as between different styles of boilers—a square foot under some circumstances being many times as efficient as in others. But when the average rate of evaporation has been fixed upon by experiments in one boiler, there is no more convenient way of rating others of the same style. By an outsider, however, no exact rating of a boiler can be made from a knowledge of only its heating surface.

The following rules are observed in a good many boiler shops, and may be useful: For cylinder boilers 9 square feet of heating surface per horse power are allowed; for flue boilers 12 square feet, and for tubular boilers 15 square feet. Hence, if the total heating surface be known, divide it by 9, 12, or 15, according to the type of boiler, and the quotient will be the horse power of the boiler. If a boiler is tested and a statement of its horse power desired, without regard to whether it is to supply its steam to drive an engine or for other purposes, then it is agreed upon by the majority of experts to consider 30 pounds of water per hour, evaporated at 70 pounds pressure from 100 degrees, as a horse power.

A standard was fixed by Watt at one cubic foot of water evaporated per hour from 212 degrees for each horse power. This was at that time the requirement of the best engine in use. Most nations have a standard similar to and generally derived from Watt's "horse power," but owing to different standards of weights and measures these are not identical, though the greatest differences amount to less than 1 1/2 per cent.—Electrical Age.

## Sinking Piles with Water Jets.

A foreign technical journal thus describes the sinking of iron piles in Chili with a water jet. Some of the piles were 14.76 inches in diameter, with a flat bottom flange or pedestal 41.92 inches in diameter, and were sunk to a depth of 28 feet below the bottom of the river through very coarse, compact sand, in which screw piles penetrated with great difficulty, and sharp piles could only be driven from 11.8 to 14.1 feet. A pump delivering about 12,000 gallons per hour through a 4.92 inch pipe would sink two piles, each having a 2.05 inch pipe projecting about 7.87 inches below its base with a 5.9 inch opening. The pile being put in position and the water jet started, it sank nearly three feet by its own weight, after which it was worked down by means of an endless cable leading from the drum of a hoisting engine around a horizontal pulley bolted on to the pile so as to revolve the latter about its vertical axis. An average of eighteen hours was required to sink each pile. On one side of the river a double-action Worthington pump was used, and the other a Tangye pump.



## Iron Mining.

## VALUE OF LEADING STOCKS.

Quoted by Chas. H. Potter & Co., No. 104 Superior St. Cleveland, O.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	\$100 00	\$ 45 00	\$.....
Champion Iron Company.....	25 00	.....	35 00
Chandler Iron Company.....	25 00	40 00	41 00
Jackson Iron Company.....	25 00	.....	.....
Lake Superior Iron Company.....	25 00	25 00	.....
Minnesota Iron Company.....	100 00	67 00	69 00
Pittsburgh & Lake Angeline Iron Co....	25 00	.....	135 00
Republic Iron Company.....	25 00	10 00	.....
Ashland .....	25 00	.....	9 00
Section Thirty-three.....	25 00	.....	4 00
Brotherton.....	25 00	.....	.....
Iron Belt.....	25 00	.....	2 00
Aurora.....	25 00	8 00	9 00

At the annual meeting of the stockholders of the Cleveland-Cliffs Iron Company in Cleveland last week, the following board of directors was unanimously elected to serve the coming year: T. P. Handy, E. R. Perkins, Samuel Mather, Amos Townsend, A. A. Pope, J. H. McBride and Wm. G. Mather, Cleveland; J. H. Wade, New York, and Peter White, Marquette, Mich. The following general balance sheet, date of Nov. 30, 1892, has been submitted to stockholders:

## ASSETS.

Cleveland-Cliffs Iron Company stock in treasury, par value 11,853 shares .....	\$1,185,300 00
Cleveland Iron Mining Company stock in treasury, cost value 99,949 shares .....	1,996,480 00
Iron Cliffs Company stock in treasury, cost value 14,585 shares..	1,823,125 00
Steamers Pioneer and Cadillac, cost value.....	222,196 91
Cash on hand.....	722 03
Accounts receivable.....	15,134 51
	\$5,242,958 45

## LIABILITIES.

Capital stock .....	\$5,000,000 00
Bills payable .....	47,600 00
Accounts payable .....	17,132 08
Income account or surplus .....	178,226 37
	\$5,242,958 45
Net earnings for year ending Nov. 30, 1892 .....	\$ 204,416 47
(Equals .05 35-100 per cent. on outstanding stock)	
Paid dividend Oct. 10, 1892, 1½ per cent. on outstanding stock...	57,213 00
Leaving a Balance of.....	\$ 147,203 47
Add balance standing to credit of income account, Nov. 30, 1891	31,022 90
Total, income account or surplus, Nov. 30, 1892 .....	\$178,226 37

Newspapers in the northwest are figuring on an output of 1,825,000 tons of ore from Two Harbors next season on account of shipments from the Canton, Cincinnati and Hale mines of the Mesabi, as well as an increased movement from the big Vermilion range properties. Two Harbors will probably increase its shipments next season, but as showing the absurdity of the estimate of 1,825,000 tons it is enough to note that of this total the Minnesota mines at Tower are credited with 600,000 tons and the Chandler with 700,000 tons.

At the annual meeting of the Brotherton Iron Mining Company in Milwaukee, the following board of directors was elected: Luther Sellwood, Duluth; M. J. Luther, Streator, Ill.; Arthur Pugh, Racine; J. Parke Channing, Iron Mountain; J. B. Stubbs, Chicago; Henry Niedecken, Edward Niedecken, Milwaukee. The following officers were elected: President, Joseph Selwood; vice president, Henry Niedecken; treasurer, M. J. Luther; secretary, Edward Niedecken.

The West Duluth Furnace, which is said to be controlled now by stockholders of the American Steel Barge Company, is using some Mesabi ore, but not at a price of \$2 delivered at the furnace, as has been reported. The price paid for this ore, which is furnished by the Standard Ore Company, is \$2 a ton at the mine, f.o.b.

At the Champion mine, which was once a favorite among the old line properties, the accumulation of large quantities of hard ore goes on. Unless the market for ore to be delivered next season admits of a place for a large quantity of this ore, a halt must be called at the Champion.

A big Worthington pump, to lift 700 gallons of water to a height of 700 feet per minute, is being put in at the Ashland mine, in place of a Cornish machine formerly in use.

## Visitors From Lloyds.

The visit of Mr. H. J. Cornish, assistant to the chief surveyor of Lloyd's Register, to shipbuilding centers of the United States on behalf of his society—to which brief allusion was made last week—is of more importance than the reference to it perhaps conveyed. The commission from the register committee is a very comprehensive—almost a “roving”—one as regards visiting centers, and observing and recording facts and impressions. Associated with Mr. Cornish in the mission will be Mr. S. J. P. Thearle of the Glasgow office, well known as a lucid writer on technical subjects. While the types of ships on the lakes, and the methods of shipbuilding there carried on, will form the objects of special observation and inquiry, those branches of modern shipbuilding in which the Americans come, or promise to come, more directly into rivalry with ourselves—high-speed mail and passenger ocean steamers for example—will form the subject of careful investigation. The yard of Messrs. Cramp & Sons, Philadelphia, in which the new Inman flyers are being laid down—which, by the way, are to be subject to Lloyd's classification—will be visited.—Fairplay, London.

## Another Fast Boat.

C. D. Mosher, the designer of the fast craft Norwood, is now completing a 78-foot boat, with 9 feet 6 inches beam. The designs of boat, engine and boiler are all Mr. Mosher's personal work, and certain novel details of the boiler and engine are covered by his patents. The engine is of the quadruple compound type with cylinders in a straight line, supported over an elliptical base of cast and wrought iron by means of slender steel vertical pillars, each pair of which are braced with straining rods in the form of an X, split down through the point of crossing and provided with a screw by which the braces can be strained until all racking is obviated. The stroke of the engine is ten inches and the cylinders are respectively 9½, 13½, 18 and 24 inches in diameter. Every ounce of superfluous metal has been removed from the castings forming the cylinders and they are handsomely jacketed with sheet brass. It is estimated that the complete engine will weigh less than 3,600 pounds, and that at a speed of 500 to 600 revolutions it will develop from 500 to 600 horse power, with a steam pressure of 250 pounds. To secure the minimum of weight with the maximum of strength, all of the working parts have been reduced to the smallest practical dimensions, or else relieved of superfluous metal at the center by boring. The rock shafts have one-inch holes through them. The piston and connecting rods are hollow, and the big crank shaft has been bored out whenever a tool could be used upon it. This shaft was carved out of solid steel forging weighing 2,012 pounds. The engine when set up will occupy less than 14 square feet of floor space.

The engine boiler is a pipe boiler of peculiar construction and is built with a view of standing great pressure, occupying little space and steaming rapidly.

## Another Half Million Added to Grain Stocks.

The following table, prepared from reports of the Chicago board of trade, shows the stocks of wheat and corn in store at the principal points of accumulation on the lakes on Jan. 28, 1893:

	Wheat, bu.	Corn, bu.
Chicago.....	13,961,000	5,798,000
Duluth.....	15,758,000	297,000
Milwaukee.....	2,265,000	22,000
Detroit.....	1,873,000	16,000
Toledo.....	3,649,000	1,447,000
Buffalo.....	3,451,000	111,000
Total .....	40,957,000	7,691,000

The electric installations which are being made on the new Cunard liners Campania and Lucania are in keeping with the other marvellous details. There are four sets of generating plants in each ship, each consisting of dynamo and engine coupled direct, to run at the rate of 280 revolutions a minute and give an output of 42,000 watts. This is capable of supplying the 1350 16-candle power incandescent lights—including eight large reflectors of eight lights each for working cargo—throughout the ship, and, in addition, a powerful search light for facilitating the navigation of the ship into port, the picking up of moorings, and scouting in time of war. The large switchboard for controlling the lights consists of thirteen sections, so arranged that each may be connected with any of the four dynamos.



### Earnings and Operations of the Barge Company.

At the annual meeting of the American Steel Barge Company in New York, a few days ago, a dividend of \$10 a share was declared, and it was announced to the stockholders that the barges had made 22 per cent. during the season of 1892. Sales of stock in the company have been confined to occasional trades between the original stockholders, and a set value can not well be placed upon it, but in transfers that have been made in this way the price has been about \$200 a share, the par value being \$100. The policy of the management, as understood by stockholders generally, is to pay regular annual dividends of \$10 or \$15, and accumulate a surplus from the balance of earnings to take up the bonded indebtedness, which is not, however, of great importance when the extensive operations of the company are taken into consideration.

There is probably no single enterprise in this country that has shown greater progress than this barge company in the short period since its organization. Several times since the establishment of the West Superior ship yard, the shrewdest men in the lake marine have inclined to the belief that Messrs. Rockefeller, Hoyt and others, who have been furnishing money for the building of the barges, would find themselves confronted with a great deal of idle property on hand when they least expected it. Capt. McDougall was leading these capitalists, the lake men argued, at a very rapid pace, and was not figuring on the evil results of a single year of poor crops. This argument is met, however, by some facts regarding the policy of the company, as shown in matters discussed at the annual meeting. Although in the short period of about four years there has been built up at West Superior a ship building plant employing about 1000 men, and keels have been laid to the number of thirty-four,—every one of them of the largest class of freight carriers—none of the vessels have been built without assurance of work for them in the carrying trade, which has been provided through close relations with other corporations shipping iron ore, coal and grain. At this last meeting of stockholders the question of the number and class of vessels to be built during the ensuing year was left to the executive committee, it being understood that construction will be pushed to an extent equal to turning out a tow barge every month. But this activity in building is not ordered on the mere strength of a favorable outlook in lake shipping. In addition to having secured for its vessels a large iron ore tonnage, by the advancement of money to companies now developing the new Mesabi iron range, the barge company is planning, though A. D. Thomson, one of its directors, who is a leader in the flour and grain business of the northwest, for a large trade in carrying flour. Mills now being erected at Duluth and Superior will increase the grinding capacity to 20,000,000 bushels annually, and the business of transporting this flour to the east formed one of the principal subjects under discussion at the New York meeting. The barge company proposes to relieve the mills of the expense of storage and additional handling of this flour, by taking it into the vessels in bulk direct from the mills and providing, of course, the usual facilities at Buffalo, or a lower lake port elsewhere, for fitting the flour for market. In view of what has already been accomplished in the building of the barges, there is no good reason for doubt regarding the latest big schemes of the company.

### Engines of the New Whitney Steamer.

A large number of Detroit people interested in marine engineering, availed themselves of the invitation of the Frontier Iron Works, Detroit, last week to call and inspect the engines built for David Whitney's new steel steamer, which is now under way at the yard of F. W. Wheeler & Co., West Bay City, Mich. The engines, which are of the triple expansion type, with cylinders 23, 37 and 62 inches by 44 inches stroke, stood in the center of the roomy erecting floor, and a good

view from all sides was thus afforded. They are duplicates of the engines in the W. H. Gilbert and Pathfinder, though those familiar with machinery would have noticed a number of improvements in detail. The principal feature of the engines to the eye of the engineer is their "roominess." There is no part of the whole machine that the engineer has not access to, and easily, at all times. Comparison in this respect alone with lake engines of the past is needless. The Frontier Iron Works make this a leading feature in their engines, and the engineer who has had ten hours work to do on his engine with only two or three hours to do it in, can appreciate the value of room. The massive and handsome bed-plate and the complete and convenient arrangement of its main journals, came in for special attention. The journals are of white metal, interchangeable, and can be removed in a few minutes without having to "take the keel out of the boat." The method of lubrication used on them is also peculiar to these works and its use last season demonstrated its advantages. Altogether the engines presented a very handsome appearance and are a very fine specimen of modern marine machinery and a credit to the builders. It is understood that Mr. James Norton, late chief engineer of the Tampa, is to take charge of the engine room of this boat.

### An Instance of Trouble With a Compass.

"During a trip to Lake Superior last season," said an engineer who was in one of the steel steamers of the Minnesota Steamship Company's fleet, "I had occasion to repair a break in a small chain connected with the signaling apparatus between the pilot-house and engine room, and the captain in helping me at finding something with which the two broken ends might be brought together, discovered a coil of chain of about similar size in one of the drawers of a table in the pilot house, close to the compass. He handed the coil of chain to me, and after using what I wanted of it I put the remainder away in the engine room, thinking it might come in handy on some future occasion. During the remainder of that trip and all of the next trip the captain was greatly worried on account of trouble with his compass. The difficulty had become so serious that he had decided to secure the services of a compass adjuster upon reaching Cleveland. He had spoken of his anxiety about the compass and his inability to locate the trouble, when it suddenly occurred to me that the coil of chain might have been placed in the drawer of the pilot-house desk for a purpose. It was only necessary for me to remind him of the repairs to the signaling apparatus. The coil of chain, which was left in the pilot-house to overcome variation in the compass, was replaced, and when it was found that the trouble with the compass had been remedied the chain was labeled, as all such articles will be on that boat in the future."

### Attractions in the Whaleback Passenger Ship.

On the glass of the numerous windows surrounding the cabins of the world's fair steamer Christopher Columbus the evolution of the ship, from the days of Noah's ark and Jonah and the whale to the whaleback barge of the present day, will be represented in pictures cut by the diamond process. Another attraction planned by Capt. McDougall for the main cabin will be an immense painting, in which numerous types of sub-marine whaleback vessels of war, designed by the inventor for harbor defense purposes, and which he claims can be constructed at a very moderate cost, will be contrasted with one of the big battle ships, which cost \$4,000,000 and upwards.

Again representatives of the New York, Ontario & Western Railway at Ogdensburg are making inquiries for suitable steamers which can be chartered to run in connection with their railroad next season between Oswego and the west. The steamers must be adapted for package freight as well as grain.



# Lake Carriers' Association.

M. A. BRADLEY, President.

VICE-PRESIDENTS: { James W. Millen, Detroit, Mich. John G. Keith, Chicago, Ill.  
Frank J. Firth, Erie, Pa. W. S. Brainard, Toledo, O.  
Thomas Wilson, Cleveland, O. R. P. Fitzgerald, Milwaukee, Wis.  
Peter F. Miller, Buffalo, N.Y. Alex. McDougall, Duluth, Minn.  
Charles H. Keep, Secretary, Buffalo, N.Y. Geo. P. McKay, Treasurer, Cleveland, O.  
Harvey D. Goulder, Counsel, Cleveland, O.

## MEETING OF THE FINANCE COMMITTEE.

The finance committee of the association, having headquarters in Cleveland and being in charge of all matters excepting legislation and aids to navigation, met in the office of Capt. Thomas Wilson, president of the association, Tuesday, and again assigned to the sub-committee, consisting of Messrs M. A. Bradley, H. A. Hawgood and James Corrigan, supervision over the direct management of shipping offices in different parts of the lakes. Shipping masters were selected as follows: A. R. Rumsey, Cleveland, salary \$2,000; Charles Fisher, assistant, Cleveland, \$800; Edward Nesbitt, Chicago, \$1,300; Charles N. Parnell, Ashtabula, \$800; P. Mitchell, Toledo, \$800. It was recommended to the Buffalo committee that Shipping Masters Fletcher and Lynch should be re-employed at their old salaries, and the sub-committee was authorized by resolution to employ a shipping master for Escanaba at a salary of \$800, and one or two assistants for the Chicago office, which will be opened as soon as preparations are made for the movement of vessels in the spring. Messrs C. H. Keep, secretary, George P. McKay, treasurer, and H. D. Goulder, council, will all serve the association another year without change of salary. The finance committee will meet at the office of President Wilson on the second and fourth Mondays of each month.

The committee was informed that Congressman Blanchard, chairman of the House committee on rivers and harbors, felt confident that he could secure an amendment to the sundry civil appropriation bill providing for an expenditure of \$25,000 on the widening of "Collision Bend," Lake George cut, the money to be taken from the 20-foot channel appropriation in the bill. A resolution was adopted, accordingly, thanking Mr. Blanchard for the prompt interest he has taken in this matter.

Perhaps the most important feature of a letter from Secretary Keep, which was read at the meeting, was a report of a consultation in Washington with James A. Dumont, supervising inspector-general of steam vessels, regarding rules governing the passage of steam vessels in narrow channels. Gen. Dumont suggested some changes in the wording of the rules, which were made by the committee. The proposed rules, as now adopted by the Lake Carriers' Association and submitted to the board of supervising inspectors, are: "In passing through channels less than 500 feet wide, no ship of over 200 tons burden shall pass another going in the same direction, unless the latter shall first signify by signal that it is willing to be passed. When two steam vessels bound in opposite direction are about to meet in any such channel, both vessels shall be slowed down to a speed in no case to exceed five miles an hour. The descending steamer shall have the right of way, but shall indicate her decision by proper signals given in due season." Gen. Dumont gives assurance that these rules will be adopted by the inspection service and adds that he is desirous of having them apply to the coast.

Now that lake vessel owners are assured that the civil sundry appropriation bill will leave the House carrying \$2,000,000 for the St. Mary's Falls canal improvements, \$500,000 for Hay lake, \$975,000 for the 20-foot channel, \$25,000 for dredging at "Collision Bend," Lake George cut, and \$10,000 for lake surveys, the only matters involving appropriations and needing attention in the Senate will be amendments to this bill increasing the amount to be appropriated for surveys to \$50,000 and adding something for several of the most important aids to navigation just authorized by the House. The officers of the association should, and undoubtedly will, give immediate attention to this work in the Senate.

## Sales Aggregating More Than a Million.

Since the close of navigation, about Dec. 1, 1892, thirty-two lake vessels of 25,230 net registered tons have been sold for \$1,100,400. As most of this tonnage has been sold to men in the lake business who are already large owners of vessel property, the activity of transfers must certainly be taken as an indication of a profitable business outlook for next season. The aggregate of sales so far is greater than during the same period in any previous winter. Vessels that have been sold, with their tonnage and selling price, will be found in the following table, in which no account is taken of the transfer of individual interests.

	Class.	Tonnage, net regist'd	Selling price.
* Jos. W. McGraw.....	steam	1,950	\$ 145,000
J. C. Lockwood.....	steam	1,902	110,000
* W. D. Becker.....	sail	994	50,000
* Davidson's No. 56.....	sail	1,075	52,000
Our Son.....	sail	684	20,000
Genoa.....	sail	694	15,000
C. G. King.....	sail	434	5,000
Camden.....	sail	695	16,000
Joseph Paige.....	sail	595	15,000
Preston.....	steam	376	35,000
S. C. Clark.....	steam	270	11,000
Richard Winslow.....	sail	885	20,000
Melvin S. Bacon.....	sail	584	15,000
Thos. P. Sheldon.....	sail	636	15,000
Egyptian.....	steam	1,206	48,000
Celtic.....	sail	681	35,000
T. D. Stimson.....	steam	468	27,500
Nyack.....	steam	1,025	40,000
B. W. Parker.....	sail	1,421	68,000
Sapho.....	steam	153	20,000
Cormorant.....	steam	1,040	39,000
Wall.....	sail	598	14,000
Iroquois.....	steam	1,470	100,000
Wocoken.....	steam	1,179	50,000
Pelican.....	sail	773	12,000
Grace Whitney.....	sail	275	3,500
J. B. Ketcham.....	steam	780	53,000
Chauncy Hurlbut.....	steam	829	45,000
D. K. Clint.....	sail	693	
Cora A.....	sail	362	16,000
Singapore.....	sail	243	2,500
White Oak.....	sail	260	2,900
Total.....		25,230	\$1,100,400

\* Building by Capt. James Davidson, West Bay City, Mich.

Of the vessels in the above list, the following have been sold during the past week: Steamer Chauncy Hurlbut and schooner D. K. Clint, Sandusky Transportation Company to Capt. John Madden and others, Detroit, \$45,000; steamer Wocoken, Winslow estate of Cleveland to John Mitchell, Albert Mitchell and Phillip Morris of Cleveland and Albert Meswald of Marine City, \$50,000; schooner Pelican, Winslow estate to Capt. William Mach and others of Cleveland, three-fourths, at rate of \$12,000 for entire boat; steamer Cormorant and consort Wall, Winslow estate to Henry W. Watson and others of Buffalo, \$39,000 for steamer and \$14,000 for schooner; steamer Iroquois, Curtis & Brainard of Toledo to W. C. Richardson, H. J. Webb and others of Cleveland, \$100,000; schooner Grace Whitney, D. C. Whitney of Detroit to F. W. Hubbard of Marine City, \$3,500; steamer J. B. Ketcham, Craig Ship Building Company and Koch & Bills of Toledo to H. M. Loud of Oscoda, Mich., \$53,000; schooner Cora A., Ford River Lumber Company of Chicago to Capt. Nelson and others of Sheboygan, Wis., \$16,000; schooner Snigapore, J. B. Caruthers of Kingston, Ont., to A. Thompson of Toronto, \$2,500; schooner White Oak, Dix & Welch of Kingston to Capt. Quinn of Oakland, Ont., \$2,900.

Mr. Brainard of Curtis & Brainard, Toledo, who was in Cleveland during the week attending to the sale of the steamer Iroquois, says that the firm of which he is a member will build at Marine City a steamer for the Lake Superior lumber trade, when the tow barge now under way in their yard at that place is completed. It is not probable, however, that the steamer can be gotten out before the opening of navigation in 1894.

Detroit purchasers of the steamer Chauncy Hurlbut and D. K. Clint number about a dozen. The boats will be managed by Capt. Madden, through the office of J. M. Jones, Detroit.

We invite correspondence from all of our readers on pat subjects.



# MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

Chicago Office, Western Union Building, 110 LaSalle Street.

Published every Thursday at No. 516 Perry-Payne Building, Cleveland, O.

SUBSCRIPTION—\$2.00 per year in advance. Single copies 10 cents each. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department contain the names of 3,600 vessels, measuring 1,154,870.38 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The number of vessels of 1,000 to 2,500 tons on the lakes on June 30, 1891, was 310 and their aggregate gross tonnage 512,787.58; in all other parts of the country the number of this class of vessels was, on the same date, 213 and their gross tonnage 319,750.84. The classification of the entire lake fleet is as follows:

Class.	Number.	Tonnage.
Steam vessels .....	1,592	756,751.53
Sailing vessels.....	1,243	325,131.06
Canal boats.....	703	72,515.42
Barges.....	62	20,472.37
Total.....	3,600	1,154,870.38

Tonnage built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

	No. of boats.	Net Tonnage.
1887.....	152	56,488.32
1888.....	222	101,102.87
1889.....	225	107,080.30
1890.....	218	108,515.00
1891.....	204	111,856.45
Total.....	1,021	485,042.94

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 228 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014. Number of boats through St. Mary's Falls canal in 1891, 225 days of navigation, 10,191; tonnage, net registered, 8,400,685. Number of boats through Suez canal during 1891, full year, 4,207; tonnage, net registered, 8,698,777.

Entered at Cleveland Post Office as Second-class Mail Matter.

ONE of the Washington newspaper correspondents, who has given considerable attention to the case of Col. William Ludlow with the light house board, writes us that perhaps the most valuable testimony in favor of Col. Ludlow before the army court of inquiry came from Engineer Secretary Mahan, who took the stand and contradicted himself and everybody else. "When his examination was over," says our correspondent, "his condition suggested that of a Christmas turkey after the carver had gotten through with it—sliced and disjointed in every particular." While the ruling of the court was decidedly disadvantageous to Col. Ludlow, the main facts of the case are so simple that his friends on the lakes have every expectation of a favorable result from the official inquiry. The court showed him no favor, while extending much consideration to the other side; but to this objection could not well be made, as nothing that would suggest a white-washing report was wanted. The main grievance with the court was that by its construction of the order convening it, it was restricted to an inquiry into the facts and documents of date prior to June 21, when Col. Ludlow was relieved from duty, which ruling restricted the direct introduction of testimony so as to exclude all the official orders and action taken subsequent to his relief, when upon full ascertainment of the facts the board revoked the orders made to the district officers in May and June by the executive officers, and adopted in full the recommendations made by the district officers. It was an additional dissatisfaction that Col. Ludlow was prevented from getting Prof. Mendenhall's pamphlet in evidence in order that the numerous false statements could be fully met. Mr. Mendenhall testified at first but refused to be cross-examined, and later when called after Capt. Mahan's examination, he refused to testify altogether. He could probably have done Col. Ludlow's side of the case no better favor, as this action prejudiced his standing. Furthermore, he swore that the pamphlet was a private letter written by him to the secretary and not intended for publication. As the letter

was officially addressed, officially signed, and pertained entirely to official matters, making official charges against Col. Ludlow, and was given to the newspapers and held up as the defense of the board by the executive officers of that body, there was manifestly nothing private or personal about it.

IN declaring that President James J. Hill of the Great Northern Railway will try to force the Northern Pacific into the hands of a receiver and try to secure control of that great property, the newspaper despatches from St. Paul undoubtedly exaggerate the extent of the transcontinental rate war since the completion of the Great Northern to the Pacific coast, but it is nevertheless certain that Mr. Hill's present power in transportation matters means a great deal for the lakes. He has declared that charges must be lowered on about 300 classes of freight heretofore carried to the Pacific coast by way of Panama or around Cape Horn. "We've got the railroad," he said in a recent interview at Tacoma, Wash., "and we've got to carry the stuff this country (the north Pacific coast) produces. We have got to bring here lots of cars to load with lumber, and we can not haul them empty westward. We must bring freight that has been coming westward by the sea routes."

A BILL recently introduced in the Senate and now in the hands of the committee on commerce authorizes the secretary of war to prescribe and publish such rules and regulations for the government and navigation of canals and similar works owned by the United States as may seem necessary or expedient. The secretary of war already exercises this power over the navigation of the St. Clair and St. Mary's Falls canals, the two great Government works on the lakes. The shipping interests petitioned congress to give such power to the war department, and the result has been most satisfactory to everybody concerned. Supervision of this kind should extend to similar works in all parts of the country.

IN adopting last week a resolution that will shortly give to lake engineers the right to hold the position of chief engineer on salt water, provided they pass the necessary examination, the board of supervising inspectors of steam vessels made a step in the right direction. Now it is probable that before adjournment a resolution will be passed favoring the passage of a law regulating the speed of vessels in narrow channels on the lakes. This measure is also endorsed by lake vessel owners. Thus the board at its present session has done more in the way of forwarding legislation which is in touch with the lake interests governed by the service than at any previous session in several years past.

IN ALL of the leading ports vessel owners are signing the agreement entered into at the last annual meeting of the Lake Carriers in Detroit, against buying fuel from coal shippers in return for cargoes. The document has been generally signed and the signers pledge themselves to stand by the agreement. There is no doubt that some coal shippers have carried this abuse to an extreme, and the vessel owners who are now trying to overcome it can do so if they hold to the agreement.

FRIENDS of Gen. O. M. Poe fear that he has not been enjoying the best of health of late. It would be unfortunate if he should be compelled to relinquish supervision of any part of the several important works under his charge, and especially the new St. Mary's Falls canal lock, which will be looked upon as his monument.

REPORTS that Canada will adjust the canal rebate question in a satisfactory manner are still going the rounds of the newspapers, but official announcement of an order in council on the subject has not yet been made.

PATTERSON'S NAUTICAL DICTIONARY AND THE MARINE REVIEW FOR ONE YEAR CAN BE HAD AT \$6.



### Vertical Bending Rolls.

The illustration represents a type of vertical bending rolls manufactured by the Niles Tool Works Company of Hamilton, Ohio. This machine will bend plate, iron or steel,  $1\frac{1}{2}$  inches thick and 10 feet wide. For the bending of heavy armor plates, two sets of these bending rolls have been furnished to the United States government, one to be used at the Boston and the other at the Mare Island navy yard.

In the machine there are three rolls arranged in the form of a triangle. The bending roll is  $18\frac{1}{2}$  inches in diameter and the feed rolls are  $15\frac{1}{2}$  inches in diameter. The rolls are wrought iron forgings, with large journals running in brass bushings. The bending roll is adjustable by power and is counterbalanced, and the upper bearing is so arranged as to permit of the roll being hoisted to the full height to allow the plate being taken out.

The housings are cast in strong box form, strongly united by three heavy posts of rectangular hollow section, arranged to leave the machine entirely unobstructed in front. The lower housing is carried back in the form of a sole plate, to receive the vertical driving and adjusting engines.

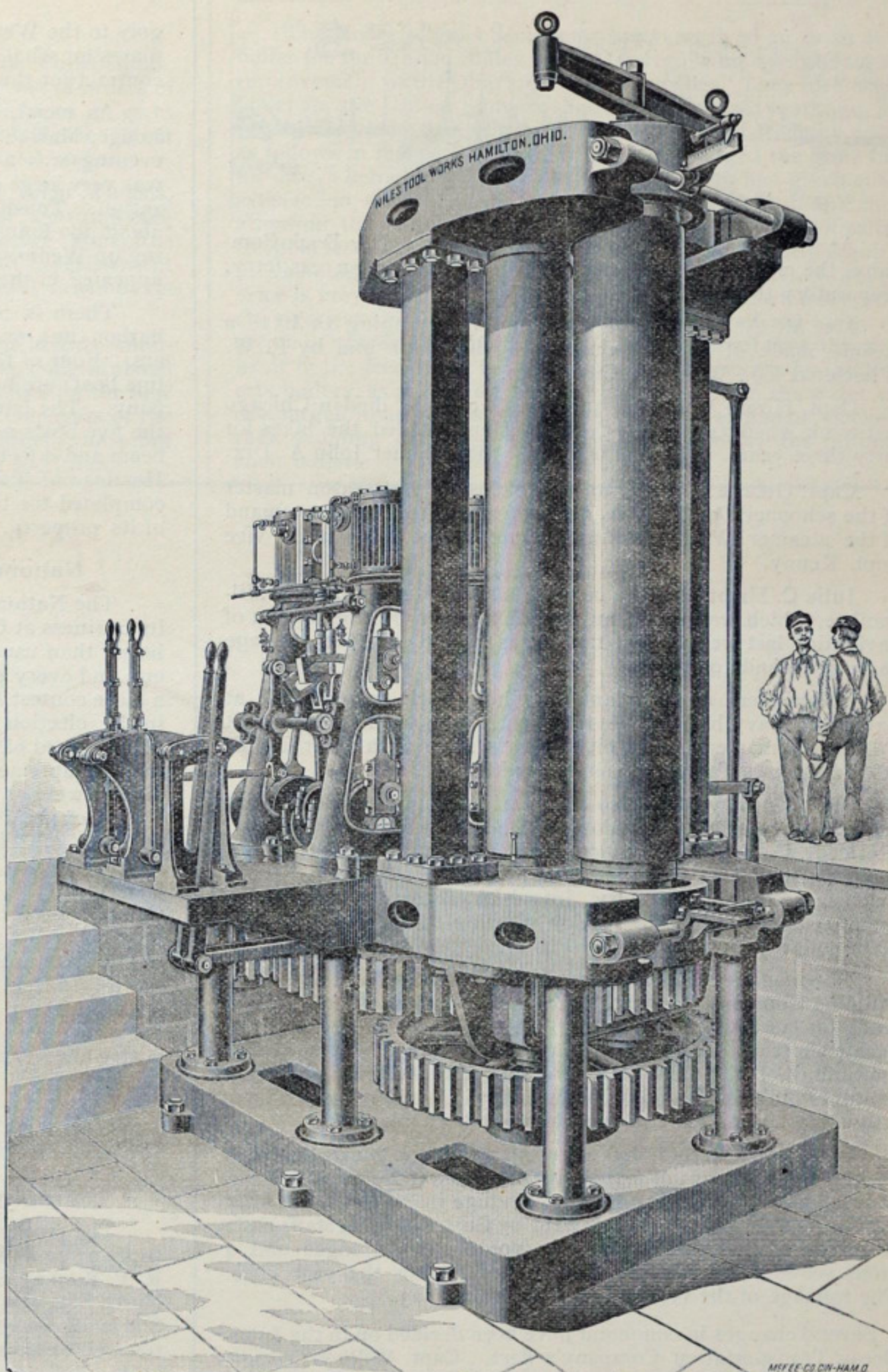
Feed rolls are driven by steel pinions gearing into a steel driving pinion, common to both, and receiving motion through a train of gears from a pair of vertical link-motion reversing engines of 8 by 10 inches.

The bending roll is adjusted by heavy steel screws,  $6\frac{1}{2}$  inches in diameter, placed in the upper and lower housings, and receiving motion from a pair of vertical link-motion reversing engines of 6 by 7 inches. By means of suitable clutches and levers the ends of the bending roll can be adjusted separately or together.

Reversing levers for engines and clutch levers are arranged on one side of the machine, and so placed that they can be reached by the operator from one position.

The whole machine is mounted on a heavy sole plate, to which are bolted the bearings for the lower ends of gear-shafts. In case of any repairs becoming necessary to the gearing, the parts can all be readily removed by unbolting the gear-shaft bearings.

The floor line is placed about on a level with the top surface of the lower housing, the gearing and sole plate being in a pit, the depth of which is approximately 6 feet 4 inches.



VERTICAL BENDING ROLLS FOR HEAVY PLATE.

### Queer Boats for the Chicago Exposition.

Fishing craft of all nations will be on exhibition in the fisheries building during the world's fair. Last week three cases containing Chinese junks arrived at Jackson park, and Consul Bedloe at Amoy, China, has sent a lot of Chinese exhibits, including junks and catamarans. The catamaran is a rude craft built of tree trunks, unhewn and held together by coir ropes. A sail of the coarsest cotton cloth is made to do duty. The boat cannot sail against the wind, for it has no rudder, but with the wind it makes fair progress. On the River Indus, in the province of Quide, the natives use a boat called palla dhundi for fishing. This boat has scarcely any bottom, and it is of the roughest construction imaginable.

A palla dhundi will be shown at the fair. The catamaran used at Madras is a rude-looking boat made of several rough tree trunks, fastened together with coir ropes. A sail of matting or coarse cotton cloth is carried during the prevalence of the monsoons. The boat has a small rigger to prevent it from capsizing. Natives use it with exceeding dexterity. Another curious canoe that is now on its way to Chicago is the donga, a boat made from the stem of the tar palm, and used in the fisheries at Jessor. It

takes the exact shape of the tar palm trunk, which has a round bulb-like form at the end, and altogether bears a striking resemblance to a spoon. The Japanese kawasaki is very similar in form to the Connecticut sharpie, but differs in some details, particularly at the stern. It is used in the cod fishing. A boat that occupies much the same position in Japanese fishing as our American dory does at home is called isobune. An isobune has already been received at Jackson park.

The shipment of junks which was received last week at the transportation department is not yet complete. Consul Bedloe at Amoy has shipped twenty-five models of Chinese boats of various sorts, and ten models of vehicles. Canoes, kayaks, and Flinkit shells are on their way, also many gondolas and braggos from Italy and Venice. The Singapore straits settlements have forwarded a consignment of fifteen models of Malay boats, and the steamship Oemanli left Constantinople Oct. 30 with a full cargo of Oriental displays, including Turkish caiques, rowing boats, and sailing craft.

CORRECTED CHARTS OF THE ST. MARY'S RIVER CAN BE HAD FROM THE MARINE REVIEW, 516 PERRY-PAYNE BUILDING, CLEVELAND, O.





At the Orleans street yard of the Detroit Dry Dock Company, the cradle is being put under the big wooden car ferry, preparatory to launching.

Mr. M. A. Bradley of Cleveland is arranging to have a steamer made of the schooner being built for him by F. W. Wheeler & Co., West Bay City, Mich.

Capt. Hiram McHenry, an old lake captain, died in Chicago last week, aged 74 years. Capt. McHenry sailed the lakes for forty-three years. His last boat was the steamer John A. Dix.

Capt. George M. Case, until the close of last season master of the schooner David Vance, has been appointed to the command of the steamer W. H. Barnum, wintering at Milwaukee, vice Capt. Kenny.

Julia C. Hammel is the name of a small steam vessel of Milwaukee, which was given an official number by the bureau of navigation last week. The number is 77,076 and the tonnage 28.02 gross and 19.92 net.

Shipmasters of Cleveland will hold their annual ball at Army and Navy hall on the 14th inst., and on the 8th inst. at Toledo, the masters of that city will assemble with their friends at Odd Fellows Temple for similar enjoyment.

Sturgeon Bay lodge No 88, Marine Engineers Benevolent Association, elected the following officers at its last meeting: Presicent, G. F. Kimber; vice president, Frank A. Ives; corresponding secretary, Harry Scofield; financial secretary, Henry Machia; recording secretary, Joseph A. Sweatman; treasurer, James Curry; chaplin, Ashley Cofrin; conductor, W. O. Helmholtz; doorkeeper, Peter Pfister.

The monitor steamer being built by the Cleveland Ship Building Company for Capt. Thomas Wilson and others is about ready for launching. By carrying the high plating at the stem back a short distance on both sides and forming a forecastle, the appearance of this boat will present improvement over the monitors built for the Lake Superior Iron Company, which have only a big box on deck forward for anchor chains, etc.

Sand Beach harbor, Lake Huron, where the government has spent a large amount of money in a breakwater and other improvements, is certainly a harbor of refuge in all that the term implies. According to records kept by Custodian Wagstaff, 1,441 steam and sail vessels, 17 rafts, 17 pontoons, 5 dredges and 4 dump scows found shelter at this harbor during the year 1892. The tonnage of the vessels footed up 554,556.23.

Several changes in command have been decided on in the Inter-Ocean Transportation Company's fleet. Capt. William Pringle goes out of the employ, and his place as master of the steamer Merrimac will be taken by Capt. Matt. Smith of the Minnesota. The vacancy in the Minnesota has been filled by the promotion of Berlin Sniffin, who has for some seasons served as first mate of that steamer. The remaining boats of the fleet will be officered as heretofore.—Milwaukee Wisconsin.

James Clark, who was head draughtsman for the American Steel Barge Company, and who recently engaged with a company which is preparing to build vessels of the whaleback kind at Duluth, says that his company will build one boat during the coming spring and summer. He says he has a few ideas of his own regarding marine architecture, and after putting Capt. McDougall's ideas into execution for several years past thinks himself capable of improving upon them. He claims to have no fear of difficulty with the barge company on account of patent infringements.

The Ironton Structural Steel Company of Duluth, which is now erecting an open-hearth steel plant and a beam rolling mill, has made arrangements to put in one 175-ton coke furnace, which will run on Mesabi ores, at \$2 a ton at the mine, on a 62% guaranty. It is understood that two other furnaces are to go in at New Duluth. The 150-ton furnace of the Minnesota Furnace Company, at Duluth, has blown in after a six-months idleness, and is running on Mesabi ores. Its product, No. 1 Bessemer,

goes to the West Superior Steel Company and is largely used for plates for whaleback ships. The company has also the plate contract for the gunboat to be built at Dubuque, Ia.

As usual, the annual banquet and ball of the Cleveland Lodge, Marine Engineers Benevolent Association, on Tuesday evening was a most successful social event. The attendance was very large and altogether decidedly creditable to the organization. Toledo engineers and their friends to the number of about 300 found a great deal of enjoyment in a similar gathering on Wednesday evening of last week. At Toledo the "boys" appeared in the grand march wearing overalls and jackets.

There is now building at the different Buffalo yards six harbor tugs, one steel freight steamer and three pleasure steamers. Four of the tugs and the steel freight steamer (the Lake Erie line boat) are building at the yard of the Union Dry Dock Company. The latest contract of this company, which is included in the five boats referred to, is for a tug 70 feet over all, 15 feet beam and 9 feet depth of hold, which will be owned by Crown & Hartman of Tonawanda. The dry dock company has nearly completed the transfer of its steel yard to the Buffalo creek side of its property.

#### National Association of Marine Engineers.

The National Association of Marine Engineers has finished its business at Chicago. The attendance at the convention was larger than usual, there being fully one hundred delegates present, and every part of the country was represented. There was a close contest for the office of national president, which resulted in the election of George Uhler of New York City. Mr. E. M. Stoddard of Cleveland, who was a candidate from the lakes for the supreme office, made a very good run. Other officers elected were as follows: Vice-President, W. D. Nelson of San Francisco; treasurer, Fred D. Cooke of Boston; Secretary, Tom F. Dowd of Chicago. The appointment of only one committee was announced, the legislative committee, which is as follows: Chairman, J. B. Wood of Cleveland, J. J. A. Williams of New Orleans, Fred P. Fitzgerald of Port Huron, and Mr. Sheehan of Pensacola, Fla. A one-sided discussion, in which a great deal of indignation was expressed, occurred over the question that has arisen from the proposition to allow alien engineers to remain in charge of the engines of the American steamers City of Paris and City of New York. Members of the legislative committee have gone to Washington to present the engineers' side of this question.

The new president, Mr. George Uhler, has been actively connected with the affairs of the association for many years past and is well known to marine engineers in all parts of the country.

#### From District Courts to Courts of Appeal.

The recent decision of Justice Brewer of the United States supreme court in the cases of George Maitland vs. the steamer R. P. Ranney and Harvey H. Brown and others vs. the steamer North Star was by no means final. The famous Sheffield-North Star collision case, as well as the other less important case here referred to, must be fought out in the United States court of appeals. Reference to the Sheffield-North Star case at this time is occasioned by its advancement in the regular order, through which in future the circuit court will simply affirm, without hearing, the finding of the district court, and thus advance cases to final hearing in the court of appeals. In this instance Justice Brewer was called upon to affirm the finding of the district court, for the reason that Judge Taft, the circuit judge, is a member of the court of appeals and was not qualified to pass upon the case.

#### In General.

In last week's issue of the REVIEW appeared a portrait of Commander Robley D. Evans, naval secretary of the light-house board, for the use of which we are indebted to the American Shipbuilder of New York.

A note in a New York letter says: "It will be comforting news for travelers via Long Island sound to know that there is no further fear of an ice embargo. The Fall River Line steamers are running regularly and on time, week-days and Sundays."

In the big dry dock of the American Steel Barge Company at West Superior, Wis., seven boats were under repair at one time recently. Two of them were big whaleback freight carriers and the other five were tugs. There are three other docks on the lakes of nearly the same dimensions as the West Superior dock.



## Trade Notes.

Riehle Bros. Testing Machine Company of Philadelphia, manufacturers of special machinery, report a big list of orders of recent date. Among them are ten testing machines to go to different parts of the country, twenty-one Riehle-Robie patent screw jacks and numerous other machines of special make.

Mr. J. H. Wade, owner of the elegant steel yacht Wadena, has awarded to the Fisher Electric Company of Detroit a contract for removing the Thomson-Houston lighting apparatus from his yacht and putting in a new plant. In an advertisement elsewhere, the Fisher company offers for sale several dynamos removed from lake steamers.

Mr. Charles W. Whitney of New York, agent in this country for Serve's ribbed steel boiler tubes, is to be congratulated upon having received an order for 1,840 of the tubes for the new Fall River steamer, as it is understood that managers of the W. & A. Fletcher Company, builders of the machinery, have not been inclined in the past to favor the adoption of the tubes.

The Roberts Boiler Company lately received an order for a boiler for the United States dredge Oswego, which is used for the improvement of the Ohio river and tributaries. They furnished a boiler for the United States dredge Ohio about two years ago, and Mr. E. J. Carpenter, United States superintendent of dredging, writes as follows in regard to same: "Since we changed the grate bars for others better adapted for our fuel, the boiler has given entire satisfaction, making steam freely and requiring little, if any, more attention than the ordinary flue boiler, while on score of safety, freedom from danger of burning, saving of time usually required for cleaning out, promptness in getting up steam, etc., its superiority is very great." These dredges are used in the muddy western rivers and the sediment is being constantly stirred up by the action of the dredges themselves. It is reported that this sediment in the feed water is handled with great success by the Roberts boilers, as it is automatically separated from the water and discharged in an almost solid state from the sediment pockets, thus avoiding the frequent cleaning required by the ordinary shell boilers.

## Vacuum Marine Engine Oil.

(Known only by this brand.)

Does the work of lard oil.

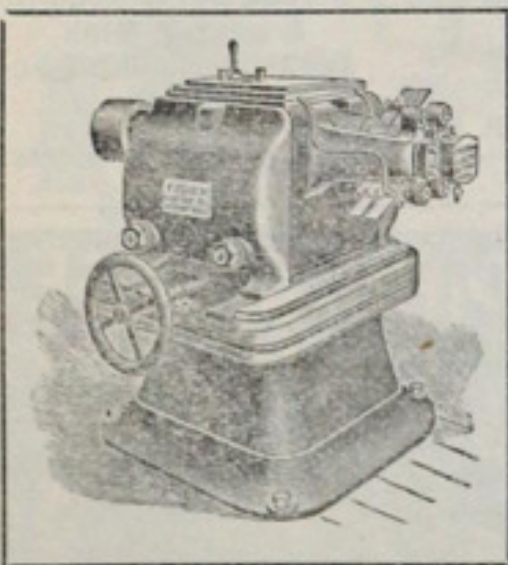
Does it better.

Does it cheaper.

VACUUM OIL COMPANY,

Rochester, N. Y.

In stock at all the leading ports.  
Send for Marine pamphlet.



## Second-Hand Lighting Plants for Sale.

One 300-Light Brush Dynamo,  
One 150-Light Brush Dynamo,  
One 125-Light Brush Dynamo,

REMOVED FROM STEAMERS CITY OF  
CLEVELAND AND CITY OF DETROIT.

One 125-Light United States Dynamo, Removed from Steamer Castalia.

One 300-Light United States Dynamo, Removed from Steamer Tuscarora.

One 125-Light Thomas-Houston Dynamo, Removed from Yacht Wadena.

Fisher Electric Company,

Detroit, Mich.



## MARINE REVIEW LINER EXCHANGE.

Space under this heading may be used gratis by our advertisers or subscribers to call attention to vessels or any craft, machinery, new or second hand, that they may have for sale. Those wanting machinery of any kind or wishing to purchase vessels, are invited to take advantage of the same offer. Employers in need of professional men or men who want positions may avail themselves of the opportunities offered. Each item will be limited to three lines. Letters concerning same must mention number attached to item and be addressed MARINE REVIEW, 516 Perry-Payne Building, Cleveland, O.

167—FOR SALE—Steamer Rust and Schooner Barnes, having 6-cent wheat on board.

168—FOR SALE—Dredge and two dump scows.

169—FOR SALE—Pair 6½x14 dredge engines.

170—FOR SALE—A new steel hull steam yacht, 56 feet over all and 10 feet beam; good speed.

171—FOR SALE CHEAP—Engine, marine compound, 6 and 12 by 8; used only two months. Price \$310.

172—FOR SALE CHEAP—Boiler, water tube, nearly new, 50 in. by 60 in. by 6 ft. high; allowed 200 pounds steam. Price \$400 if sold at once.

173—FOR SALE CHEAP—Steam yacht with full cabin; length 62 feet, beam 8 feet; guaranteed speed 14 miles; cost \$3,600, price \$1,700.

174—FOR SALE—Herreshoff launch; length 27 feet, compound engine, Herreshoff boiler; speed 10 miles; economical.

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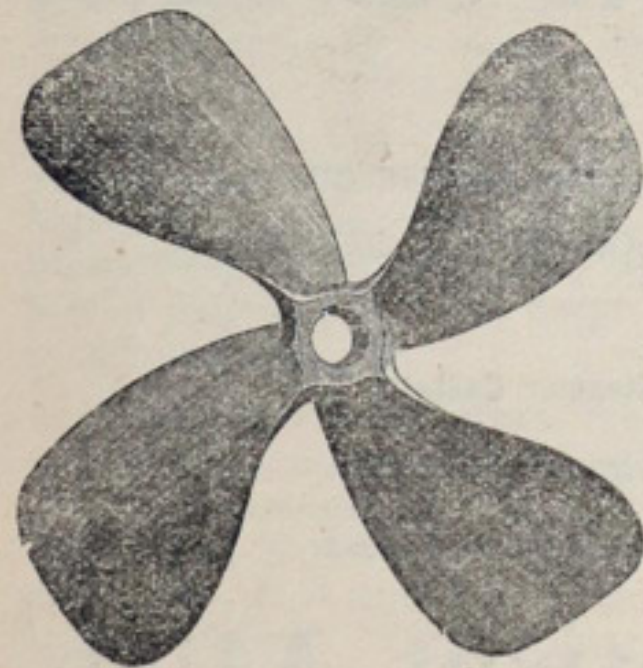
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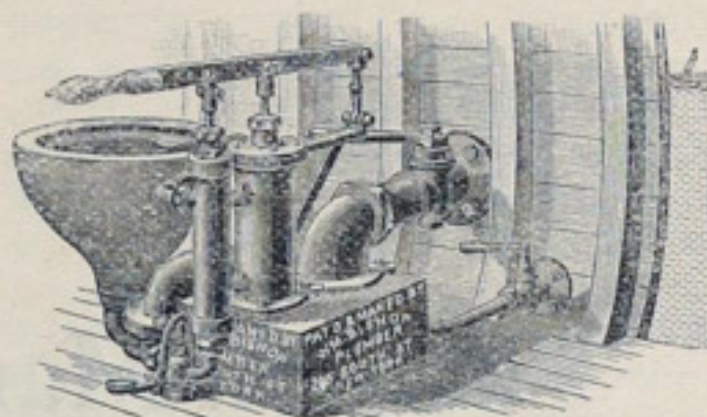
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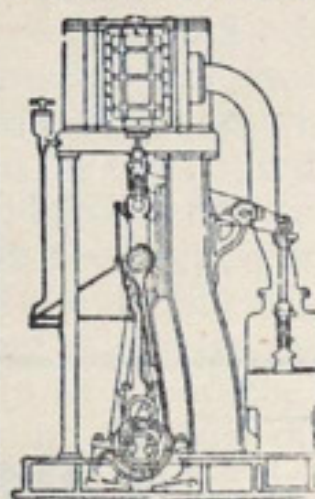
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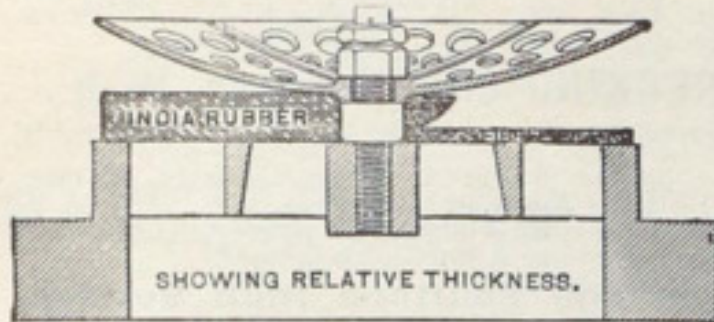
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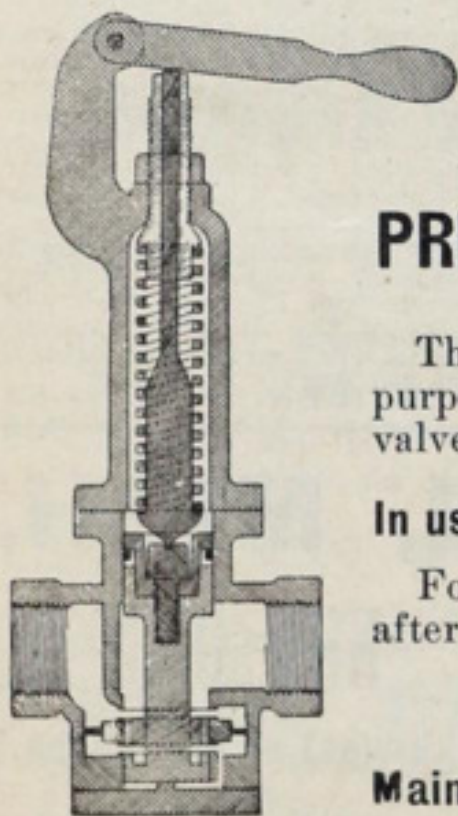
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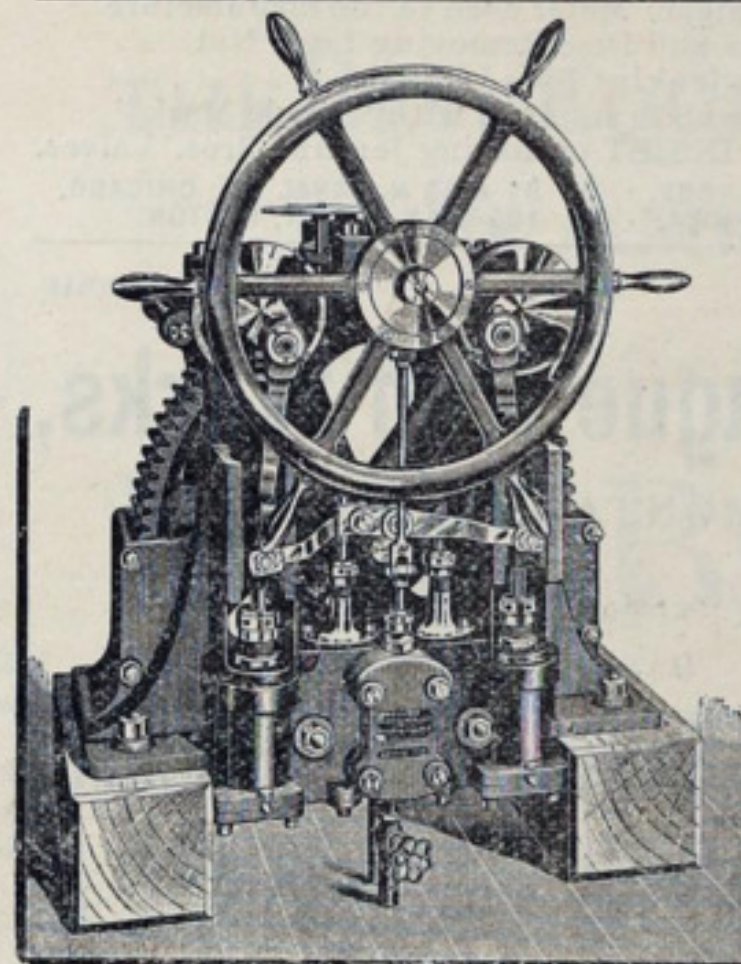
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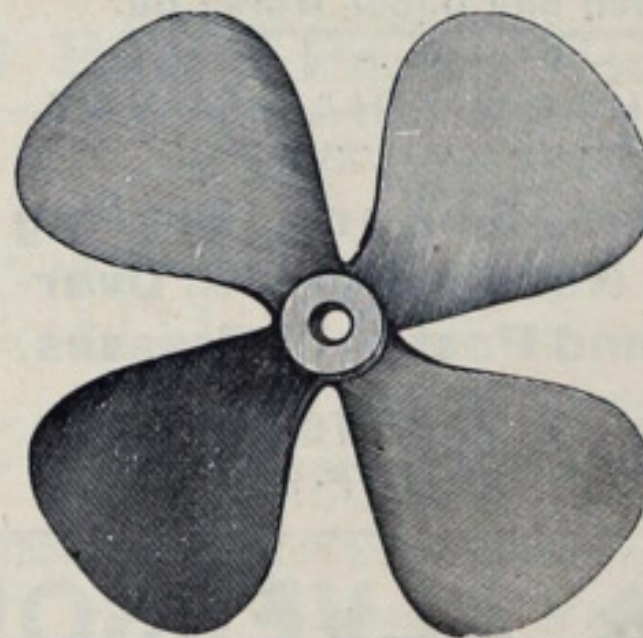
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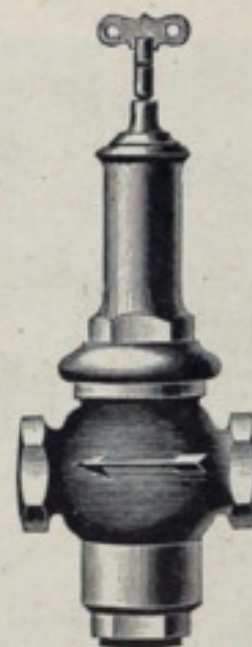
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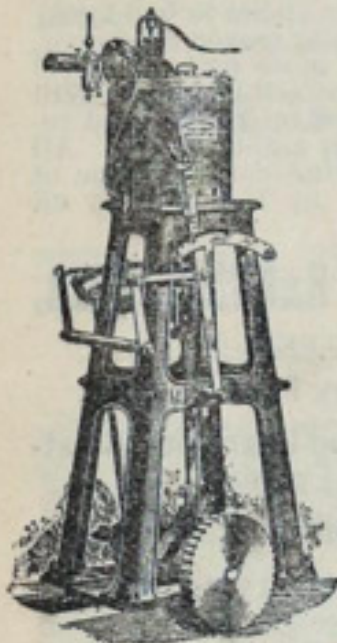
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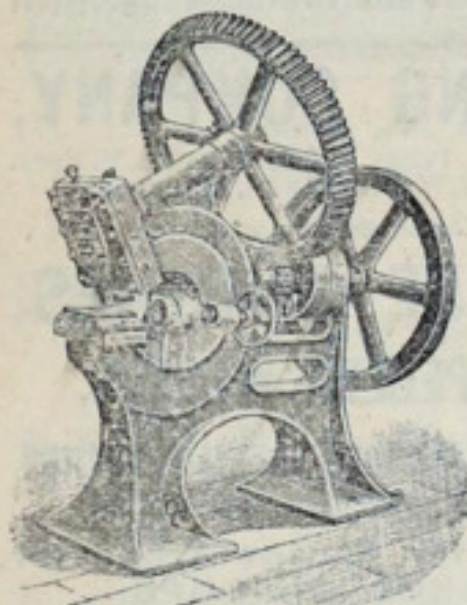


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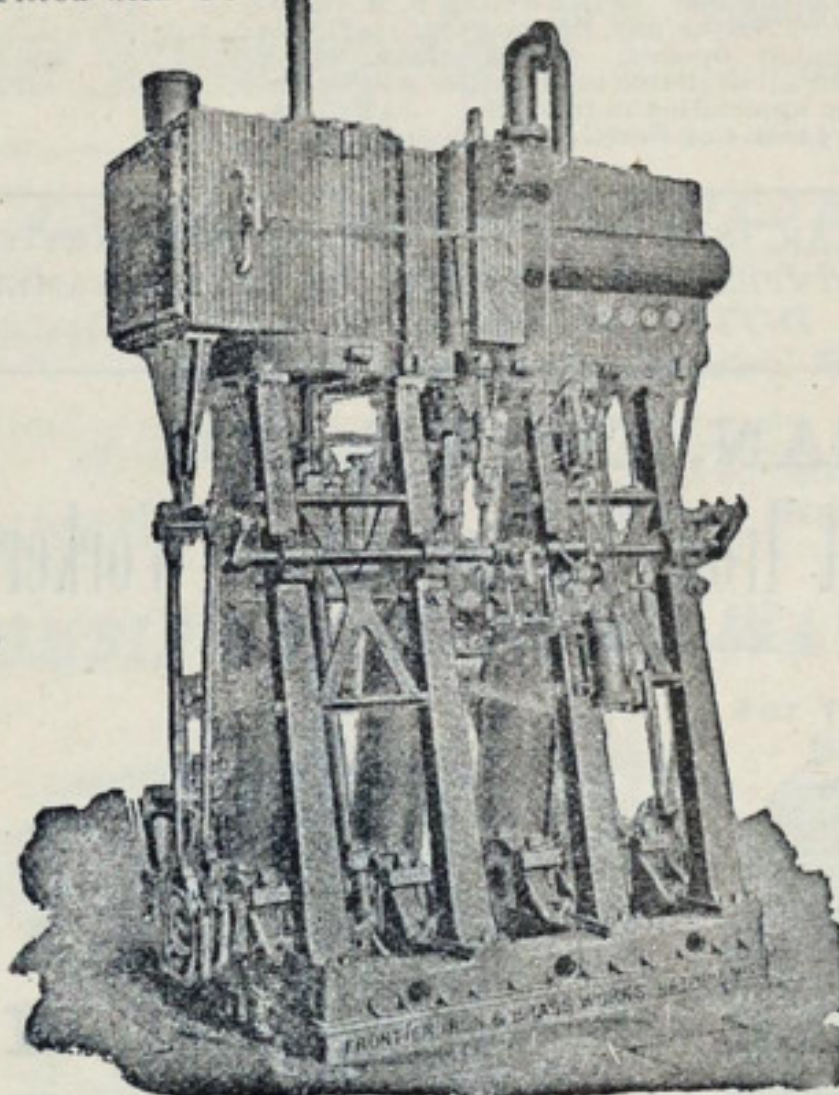
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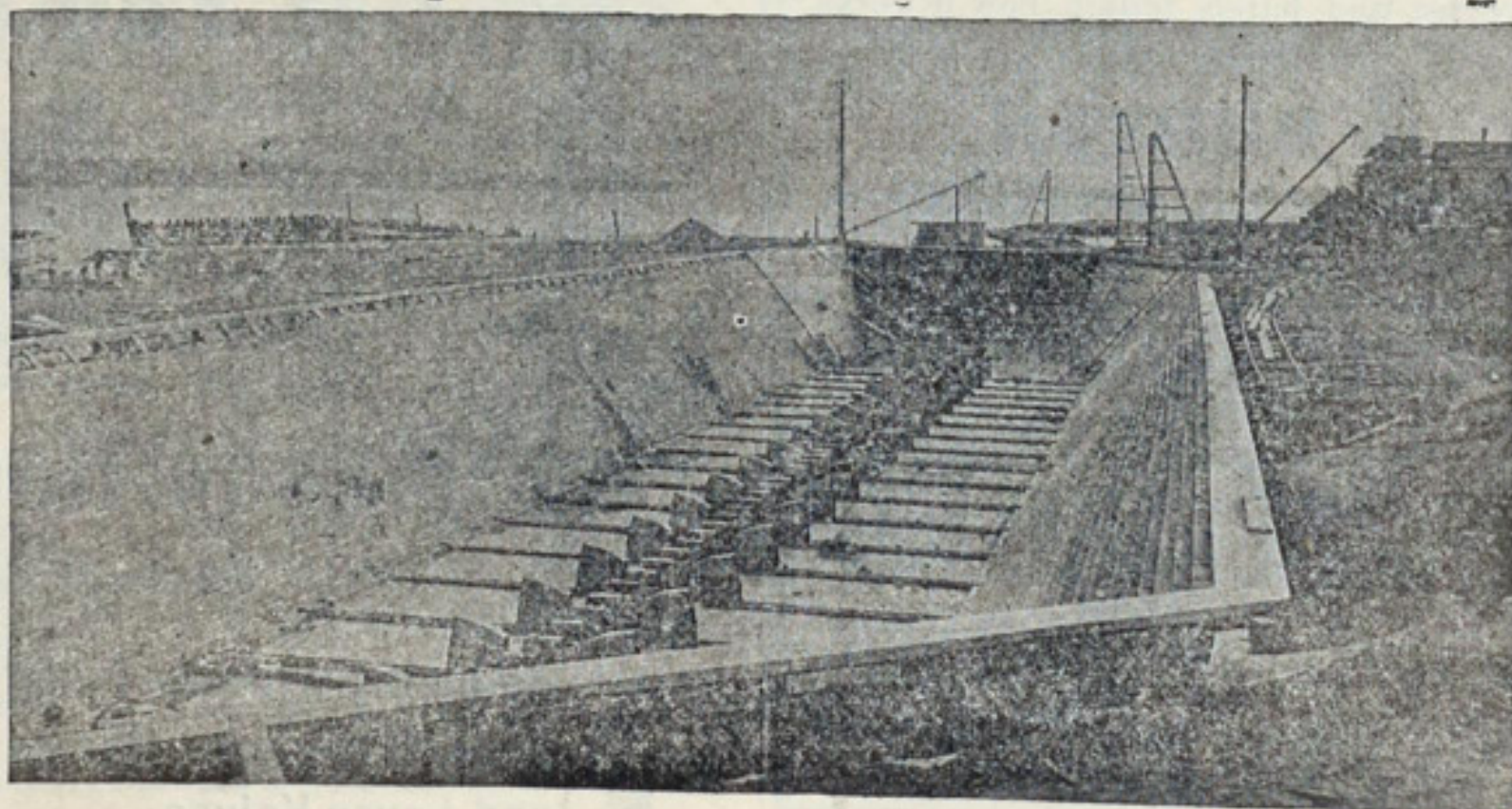
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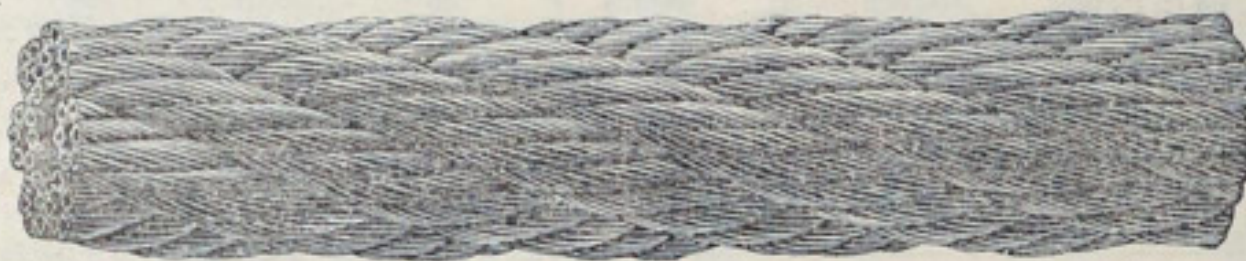
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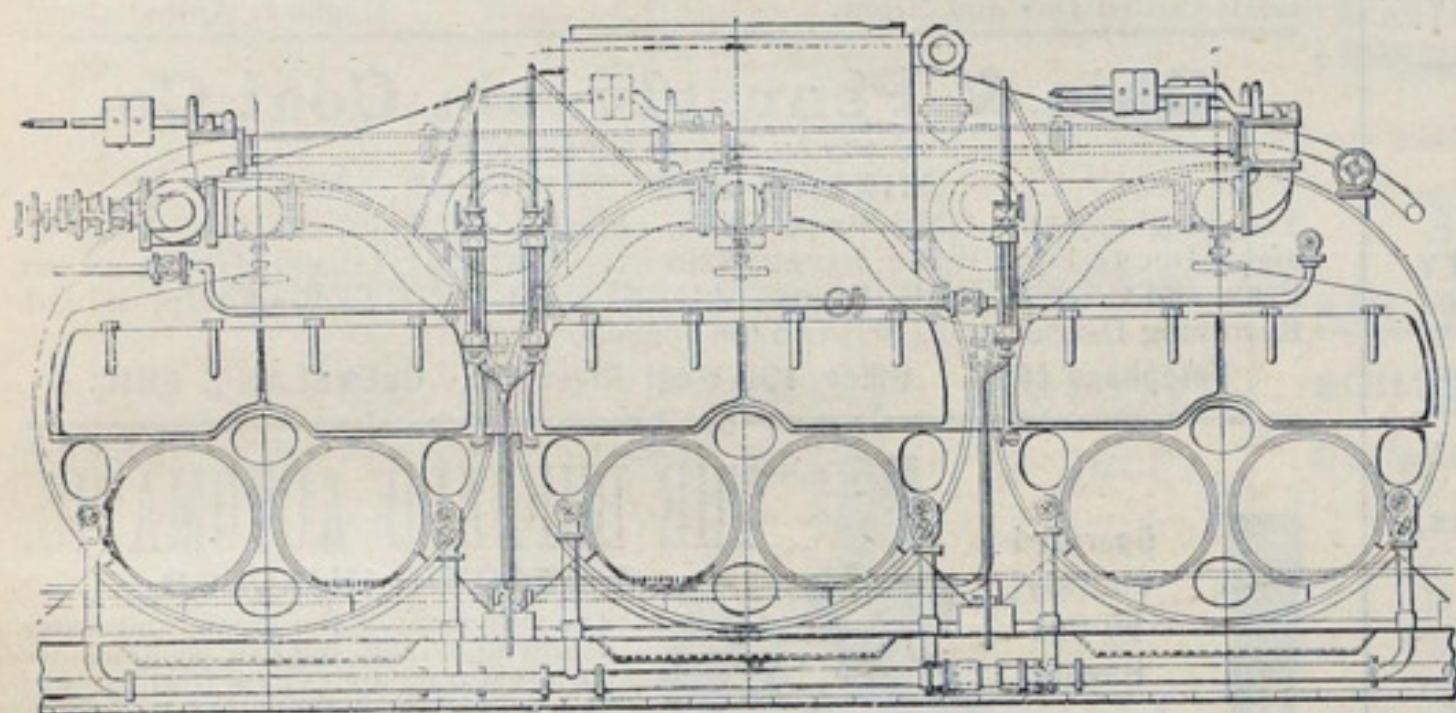
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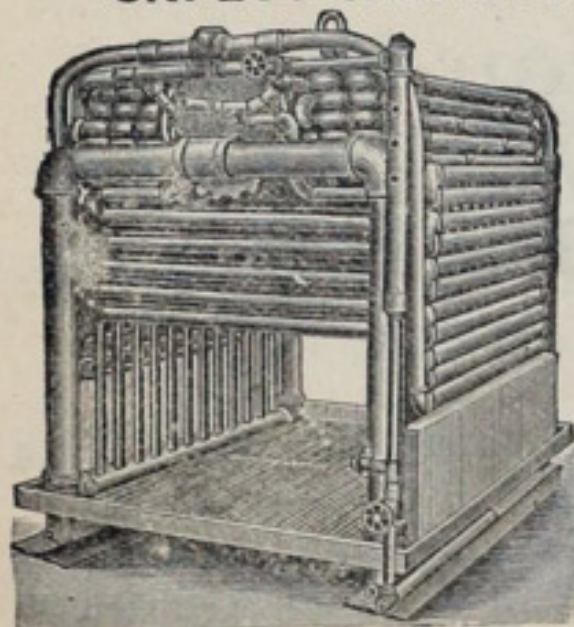
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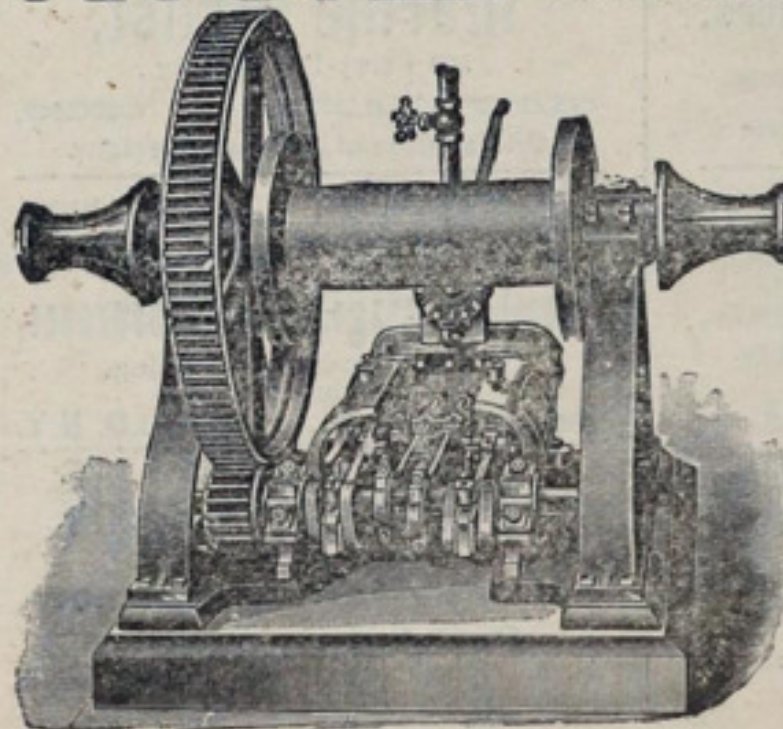
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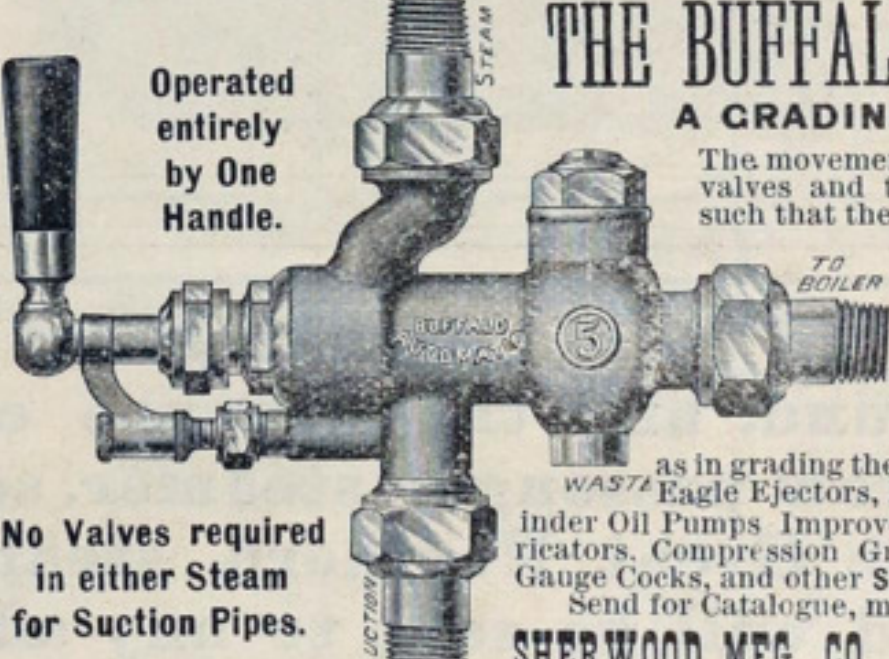
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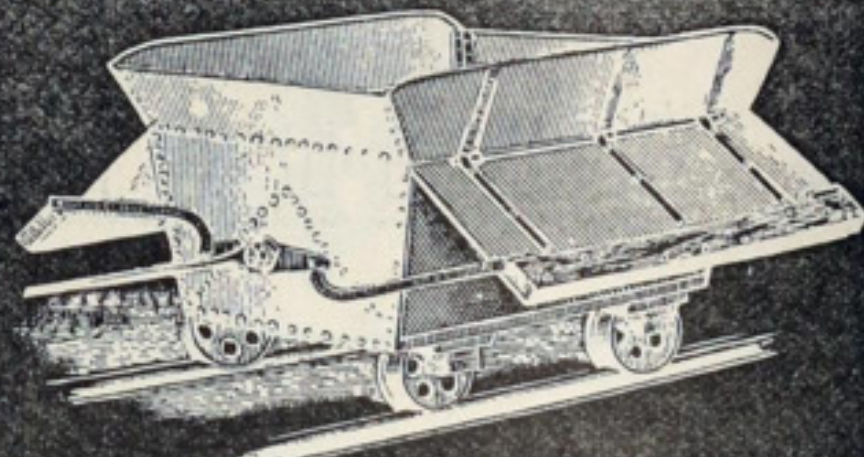
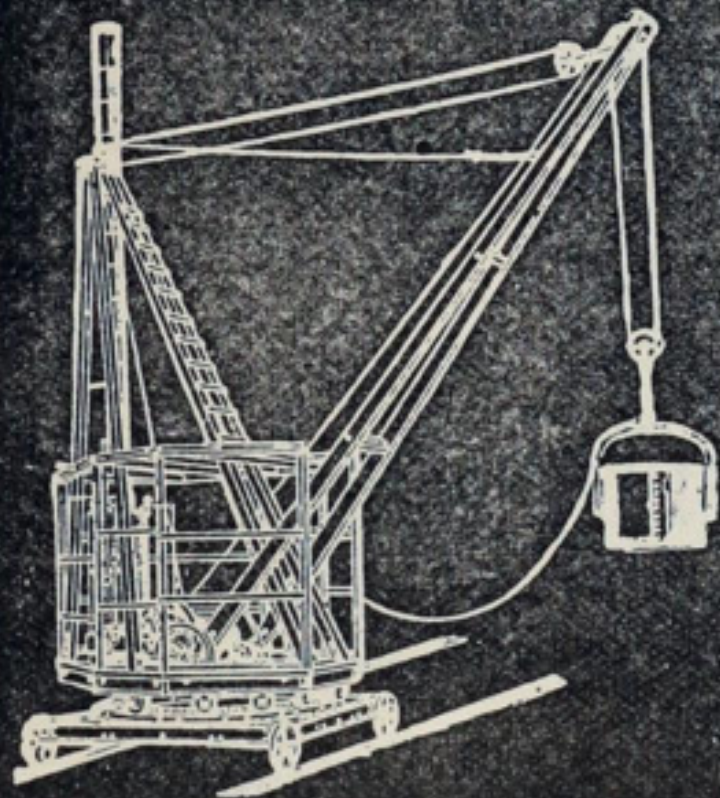
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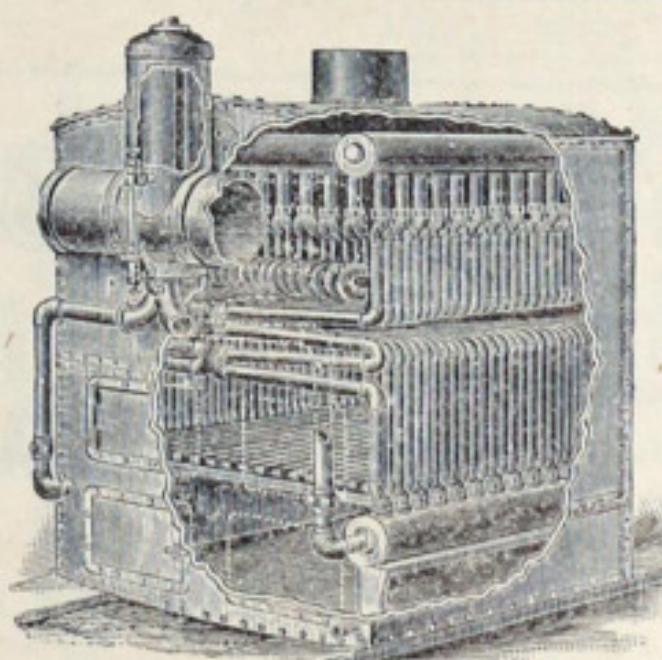
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